

*Op-Ed*

## Good Science + Good Ethics = Good Law: Five Rules for Epidemic Preparedness

LAWRENCE O. GOSTIN

THE EBOLA EPIDEMIC REVEALED WEAKNESSES IN THE UNITED States' health system. But Ebola's lessons can be captured in a simple formulation: *Good Science + Good Ethics = Good Law*. Drawing on this equation, here are 5 rules for public health preparedness.

### 1. Cosmopolitan Ethics

A cosmopolitan ethic views humankind as a single community with shared responsibilities. It entails relationships based on mutual respect and duties to assist when others face hardship. In times of epidemic threats, however, history teaches that communities often become insular. States erect barriers to travel and trade. The United States, despite few domestic Ebola cases, introduced enhanced airport screening, while several states quarantined returning health workers. Many called for travel bans from West Africa. Yet a narrow focus on perceived self-interest can actually *increase* domestic risk.

Our national interests and public health are inextricably tied to those living in epidemic hot spots. Attacking epidemics at their source lowers the infection reservoir and helps prevent international spread. Although raging infectious diseases seem a world away, the smart course is to bring the epidemic under control rather than seal borders.

### 2. Duty to Protect Domestic Populations

Effective action abroad will not eliminate risk at home. Infectious diseases still travel across borders, and health hazards can arise inside the

United States. Yet the United States has been moving in the wrong direction, weakening its health system. In 2013, for example, Congress cut the budget of the Centers for Disease Control and Prevention by \$1 billion.<sup>1</sup> Since 2008, state and local health department deficits have resulted in the loss of more than 50,000 public health jobs.<sup>2</sup>

President Obama's emergency budget request in November 2014 represented an important course correction. The supplemental request would buttress domestic responses to all hazards, including funding for advanced care and laboratory capacities, isolation facilities, and health worker protection.<sup>3</sup> Congress provided most of the funding in the President's request in the omnibus appropriations bill it passed in December.

Additional measures are required to ensure US epidemic preparedness. Achieving universal health care coverage would enable early diagnosis and treatment of infectious diseases. This requires expanding Medicaid in all states and extending the Affordable Care Act to undocumented immigrants. Such moves would recognize that poor people and immigrants often have higher risks of infectious diseases, are part of the community, and deserve equal access to health services.

Effective surveillance and response requires major new funding for public health agencies. Regulating prophylactic antibiotic use in livestock, their overprescription by physicians, and nosocomial infections could reduce antimicrobial resistance. To spur innovations in vaccines and pharmaceuticals, Congress should provide sustained, substantial increased funding to the National Institutes of Health.

### **3. Duty to Protect the Vulnerable**

Disadvantaged people have fewer resources to take care of themselves. Vulnerable individuals (eg, the poor, immigrants, and prisoners) are frequently more susceptible to infections—causing ill health and risking transmission to family and community.

The duty to protect the vulnerable requires fair allocation of benefits among and within countries. Globally, however, vaccines and therapies are unfairly distributed, with low- and middle-income states lacking access. Although the World Health Organization (WHO)'s 2011 Pandemic Influenza Preparedness Framework established a multilateral means for sharing vaccines and treatments, it applies only to pandemic influenza and lacks clear mechanisms to ensure equitable allocation.

Hence, in the face of a pandemic, high-income populations are likely to exhaust scarce supplies of vaccines and therapies, as occurred during the 2009 H1N1 influenza pandemic. If a pathogenic disease spread rapidly, death rates in lower-income states would be much higher than those in higher-income states.

Governments must reduce barriers to care, such as physical or mental disability, old or young age, and language differences. Prioritizing health workers is required because they are at increased risk of contracting infections and are needed to care for others. If health workers face inordinate risks in the workplace, they also are more likely to stay away from their posts, undermining the disease response.

#### **4. Duty of Civic Engagement**

Civil society organizations (CSOs) can often reach poor and marginalized populations that may distrust government or that simply have closer ties to CSOs in their communities. CSOs can advocate on behalf of and empower marginalized populations. They also may be more effective at educating the public about a disease and minimizing its spread in communities in which many people view government as incompetent and corrupt.

CSOs are also a critical source of objective information. Médecins Sans Frontières, a leader in the Ebola response, warned the WHO in April 2014 of the dangers of the West African outbreak, but its warning went unheeded.<sup>4</sup> CSOs often call attention to unmet needs, from food shortages to a paucity of health workers and personal protective equipment. Their experience on the ground will be critical to retrospective analyses of national and global disease response, enabling better planning for the future.

Community members themselves must be engaged in epidemic preparedness and response. Community health workers are the “eyes and ears” of a community, are often the first to notice unfamiliar diseases that signal an outbreak, and detect cases in the community during an epidemic. Community leaders are a trusted source of information. Community members are often on the front lines, caring for stricken family members and responsible for alerting authorities.

## 5. Duty to Calibrate Interventions Based on Scientific Risk Assessment

To stem the spread of infectious diseases, governments may have to exercise their public health powers, such as social distancing (eg, closing schools, banning mass gatherings) and quarantine. Depriving individuals of autonomy, privacy, or liberty, however, requires a strong public health justification. Yet frightening epidemics frequently bring out the worst in societies, often stigmatizing “outsiders.” Although human instinct is to physically separate from the source of infection, coercion must be deployed judiciously, no more than science dictates. Overreaction infringes on individual rights and undermines public trust—driving epidemics underground. Restricting health workers’ travel and the free flow of essential food and supplies can exacerbate a crisis.

The exercise of public health powers should be informed by the best available science. Ebola, for example, is transmissible only by contact with the bodily fluid of an infected person who is exhibiting symptoms. Thus, travel bans and the quarantine of asymptomatic individuals returning from West Africa are unduly restrictive, arguably even unconstitutional. In regard to civil confinement, the US Supreme Court requires the least restrictive means, even when the state is pursuing a substantial interest.<sup>5</sup>

Restrictions of liberty demand individual risk assessments. Is a health worker returning from an affected country symptomatic? Did she follow protocols for using personal protective equipment? Did she face atypical risk? Individual risk assessment is closely linked to procedural due process, which, when depriving a person of liberty, requires an impartial determination of significant risk to the public. If quarantines are necessary, individuals must be treated humanely, including providing them with safe, habitable environments and, if needed, medical treatment.

These 5 rules of epidemic preparedness are encapsulated in the framework: *Good Science + Good Ethics = Good Law*. This rubric ensures humane and equitable action *and* protects the public. With the next epidemic possibly around the corner, our public responses must be based on the best available scientific evidence. It is time to commit public policy to good science, ethics, and the rule of law.

## References

1. US Centers for Disease Control and Prevention. Fact sheet: impact of sequestration and other budget changes on the Centers for Disease Control and Prevention. 2013. [http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations\\_budget\\_form\\_pdf/Sequester\\_Impacts.pdf](http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations_budget_form_pdf/Sequester_Impacts.pdf). Accessed November 9, 2014.
2. Association of State and Territorial Health Officials. Budget cuts continue to affect the health of Americans: update September 2014. <http://www.astho.org/budget-cuts-dec-2012/>. Accessed November 21, 2014.
3. Gostin LO, Waxman HA, Foege W. The president's national security agenda: curtailing Ebola, safeguarding the future. *JAMA*; published online November 20, 2014. <http://jama.jamanetwork.com/article.aspx?articleID=1939047>. Accessed November 20, 2014.
4. Boseley S. World Health Organisation admits botching response to Ebola outbreak. *Guardian*. October 18, 2014. <http://www.theguardian.com/world/2014/oct/17/world-health-organisation-botched-ebola-outbreak>. Accessed November 21, 2014.
5. *Shelton v. Tucker*, 364 US 479, 488 (1960). <https://supreme.justia.com/cases/federal/us/364/479/case.html>. Accessed November 21, 2014.

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*Address correspondence to:* Lawrence O. Gostin, Georgetown Law, 600 New Jersey Ave NW, McDonough 574, Washington, DC 20001 (email: [gostin@law.georgetown.edu](mailto:gostin@law.georgetown.edu)).